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*U.S. Environmental Protection Agency  
U.S. Office of Surface Mining*

*West Virginia Division of Environmental Protection*

*U.S. Army Corps of Engineers  
U.S. Fish and Wildlife Service*

## **Mountaintop Mining/Valley Fill Environmental Impact Statement (EIS) Bulletin 4**

### **This Bulletin.....**

**.....updates schedules for technical study completion; and**

**.....announces a delay in the publication of the draft EIS.**

**Background.** The U.S. Environmental Protection Agency (EPA), U.S. Office of Surface Mining (OSM), U.S. Army Corps of Engineers (COE), U.S. Fish and Wildlife Service (FWS), and West Virginia Division of Environmental Protection (WVDEP) are cooperating in the preparation of an EIS on mountaintop mining and valley fill operations in the Appalachian coalfields. The purpose of the EIS is *"to consider developing agency policies, guidance, and coordinated agency decision-making processes to minimize, to the maximum extent practicable, the adverse environmental effects to waters of the United States and to fish and wildlife resources from mountaintop mining operations, and to environmental resources that could be affected by the size and location of fill material in valley fill sites."* The Commonwealths of Kentucky and Virginia are also participating in the EIS process, providing available data regarding operations within their jurisdictions.

**NOTE:** Some of the regulatory issues being examined in the EIS are the subject of litigation in West Virginia. On Wednesday October 20, 1999, Chief Judge Charles H. Haden II (Southern District of West Virginia, United States District Court) ruled on legal issues related to valley fills. The Court ruling held that the OSM buffer zone rule at 30 CFR 816/817.59 protects the entire length of intermittent and perennial streams (pps. 40 and 18 of the Order); that placement of valley fills in intermittent and perennial streams violates Federal and State water quality standards by eliminating the buried stream segments for the primary purpose of waste assimilation (pg. 45); and that overburden or excess spoil is a pollutant and waste material, not "fill material" subject to Corps authority under Section 404 of the Clean Water Act, when discharged into waters of the United States for the primary purpose of waste disposal (pg. 31).

The Court (by Memorandum Opinion and Order entered October 29, 1999) granted a stay of its October 20 ruling pending appellate action in the Fourth Circuit. The Court of Appeals is currently being briefed by the parties, interveners, and amici, and a decision is not expected until

late this year or early next year.

While the Court decision and subsequent events may have an immediate influence on the policy and program direction taken by the regulatory agencies, preparation of the technical studies and EIS will provide valuable information from which Federal and State policymakers can make longer-term programmatic decisions. The multi-state scope of the EIS and the cooperation among Federal and State agencies in the EIS process will also help to harmonize permitting policies and procedures.

**Previous EIS Bulletins.** On May 26, 1999, EPA sent EIS Bulletin 1 to those who registered at EIS scoping meetings and to those who sent in comments responding to the February 5, 1999, EIS Notice of Intent. Bulletin 1 summarized comments received during the scoping process, provided the goals which the agencies adopted for the EIS process, outlined the framework of the EIS, and announced another opportunity for public input regarding the program review portion of the EIS. Bulletin 1 can be viewed at <http://www.epa.gov/region03/mtntop/bulletin/bulletin.pdf>

Bulletin 2 was published in August 1999 on EPA's web site and described the technical studies and symposia developed to explore many of the issues raised during the EIS scoping process. Information developed through the studies and meetings will be used to prepare the EIS, and some longer-term studies will continue beyond the finalization of the EIS. Bulletin 2 can be viewed at: [http://www.epa.gov/region03/mtntop/bulletin/bulltn\\_8.pdf](http://www.epa.gov/region03/mtntop/bulletin/bulltn_8.pdf)

Bulletin 3, published in November 1999 on EPA's web site, announced progress in funding the technical studies, work plan publication, and plans to publish periodic updates on the web site. Bulletin 3 also described the program review process underway for developing alternatives, and announced stakeholder outreach that occurred in November 1999, December 1999, and January 2000. Bulletin 3 can be viewed at: <http://www.epa.gov/region03/mtntop/pdf/bulletin3.pdf>

**The Current Bulletin.** This Bulletin 4, (also on the EPA Region III and OSM web sites) updates the status and schedules for completion of the remaining technical studies, and announces a decision to delay issuance of the draft EIS until these studies can be finalized. This decision was made, in part, in response to a request from the West Virginia Legislature to delay publishing the EIS until the economic impact analysis being funded by the Legislature is completed.

After considering the status and scheduled completion dates for the technical studies, including the economics study referenced in the letter from the West Virginia Legislature, the participating agencies concluded that these studies must be finalized prior to publishing the draft EIS. While some of these studies are partially or wholly completed to date, the agencies believe that including up-to-date information and conclusions obtained from the finalized reports will enhance the quality of information provided for public comment, increase public understanding of mountaintop mining impacts, and allow for better decision making.

**Updated Technical Study Plans.** The following paragraphs update the schedules for the technical studies described in Bulletin 2. The revised schedule requires all studies to be completed on or before December 21, 2000 so that the EIS may be issued shortly thereafter.

Fill Inventory : This effort will develop an inventory of all proposed post-SMCRA valley fill “footprints” through cooperative agreements with West Virginia, Kentucky, and Virginia. Information on existing fills is being collected and inputted into a Geographic Information System (GIS) . Aerial imagery is being used to ensure that the fill inventory reflects as-built configurations. Using a USGS digital hydrography layer of streams, an estimate of the streams impacted by the placement of excess spoil in valleys will also be made. This study is projected to be completed in November 2000.

Future Mining : The purpose of this study is to project future surface mineable coal resources located in steep terrain in the Southern Appalachian Coalfields. Kentucky, West Virginia, and Virginia have updated coal resource information and incorporated this information within a Geographic Information System. The resource information is being refined based on typical mining constraints such as overburden ratios, size of minable blocks, etc. to develop polygons of remaining coal that are likely to be mined in the future by surface mining methods. Future mining scenarios are also being developed by Resource Technologies Corporation as part of the Mining Economics Study (see below). Future mining area polygons which are developed from these efforts can then be incorporated into the CVI Landscape Ecology Analysis (see below) to assess future environmental conditions across the study area. This study is projected to be completed in November 2000.

Fill Stability Study: This work plan is being carried out by the U.S. Department of Interior, Office of Surface Mining (OSM). The purpose of this work plan is to record instances of past fill failure; collect fill-stability indicator data from permit applications, other documents, and field observations; and judge the effectiveness of the current SMCRA rules in minimizing fill failures. This study is projected to be completed in November 2000.

Mining and Reclamation Technology: A mining technology mini-symposium was held June 23-24, 2000 to identify various mining/reclamation techniques that are available, and to discuss the various technical and economic factors that must be considered in choosing a method of mining. The proceedings from this symposium can be viewed at the U.S. Department of Energy, National Energy Technology Laboratory web site <http://www.netl.doe.gov>. An evaluation of the effects on mineral extraction ratios by limiting valley fills to ephemeral stream segments was performed. This study has been completed, the results of which will be published in the draft EIS.

Flooding Potential: This study is using hydrologic models developed by the Corps of Engineers and the proprietary hydrologic software SEDCAD to assess actual permit information from MTR sites to compare the effect of surface water flow of unmined and mined sites during rainfall events. The study will also compare the effects of AOC, non-AOC topography, and changing land cover of reclaimed sites on flow rates. Finally, the COE will evaluate flooding modeling

done by Phoenix Coal Company for the Island Creek watershed. This study is projected to be completed in November 2000.

Fill Hydrology: The U.S. Geological Survey (USGS) is conducting a field study of the hydrologic effects of valley fills on surface water by installing rainfall gauges in filled watersheds and stream gauges below the fills. Similar gauging will be installed in an undisturbed watershed for reference purposes. The results of the USGS study will complement the COE flooding study modeling and the stream study efforts. USGS has evaluated 60 watersheds (20 with large fills, 20 with small fills, and 20 with no fills) to assess stream geomorphology by taking stream bottom substrate samples for particle size evaluation. This study is projected to be completed in November 2000.

Streams: The impact of mining and fills on stream water quality and biologic diversity (focusing on benthic populations and stream chemistry) is being assessed. Comparisons between mined and unmined streams is underway in five watersheds in West Virginia: Spruce Fork, Clear Fork, Twenty Mile Creek, Island Creek, and the Mud River. Data collection has also been initiated within an additional watershed located in Kentucky.

Efforts to establish ephemeral, intermittent, and perennial points using both biological and hydrologic techniques are also underway. Field work was conducted in the spring of 2000 to assess biological conditions in headwater streams, and to establish ephemeral points using hydrologic techniques during high base flow conditions. Similar field work is proposed for October to establish perennial points during low base flow conditions. This effort will be completed in November 2000.

Fisheries: A study to assess the effects of mountaintop mining/valley fill activities on downstream fish populations is being conducted by the Pennsylvania State University under an agreement with the U.S. Fish and Wildlife Service. Population estimates will be made using methods developed by Van Deventer and Platts. Sampling began in the fall of 1999 and continued in the spring of 2000. Any unique species will be identified by experts. Data collected will be analyzed as to the effects of mining by applying techniques similar to the index of biotic integrity (IBI, Karr 1981). The findings will complement the stream chemistry and benthic studies undertaken pursuant to the Streams Work Plan. This study is to be completed in November 2000.

Wetlands: The extent to which wetland resources typically exist in unmined headwater basins has been evaluated and compared to similar basins where mined sites have been reclaimed. Field teams performed functional assessments (water quality, wildlife, and sediment trapping) at wetland areas identified on mined lands. The field portion of this study has been completed, the results of which will be published in the draft EIS.

Aquatic Ecosystem Enhancement: This work assembled ecological and stream restoration experts to focus on the subject of stream (or other aquatic area) re-creation on mine sites. A

symposium was conducted on January 12, 2000. The proceedings from this symposium can be viewed at the U.S. Department of Energy, National Energy Technology Laboratory web site <http://www.netl.doe.gov>. The success of this workshop resulted from industry cooperation.

Terrestrial Habitats: This study, conducted by the West Virginia University, will evaluate vegetation and wildlife use of reclaimed mine sites compared to unmined habitats. Studies will focus on plant succession on reclaimed areas, soil health on mined sites, and effects of mountaintop mining/valley fill operations on herptiles, birds, and small mammals. This study is projected to be completed in November 2000.

Soil Quality and Forest Productivity: This study evaluates State and Federal regulations, policies, and practices; relevant literature; and soil conditions of existing reclaimed lands in order to assess the effectiveness of current reclamation practices on reclaimed forest lands. The report incorporates discussions with State/Federal inspection, enforcement, and permit review personnel and national reclamation experts; reviews of permits, inspection reports, and other relevant documents; results of research reports; findings of university researchers; and, results of site investigations. This study has been completed, the results of which will be published in the draft EIS.

Mining Economics: The purpose of this study is to determine the production, market, and economic impacts of modifying mountaintop mining and valley fill activities in West Virginia. This will be accomplished, in part, through the use of the geographic information system data base developed for the West Virginia Department of Tax and Revenue and the reserve coal valuation model developed by the West Virginia Department of Tax and Revenue to forecast reactions under various restriction alternatives. The West Virginia University Bureau of Business and Economic Research will estimate the direct and indirect impacts to modifications of MTM/VF activities by using the REMI economic-demographic model. This study is projected to be completed in December 2000. The socioeconomic effects resulting from mountaintop mining/valley fill operations will also be evaluated in the EIS. These effects will be evaluated by the EIS contractor.

Mine Dust and Blasting Fumes: West Virginia University is evaluating mine-generated dust and blasting-generated fumes to determine the extent to which communities adjacent to mountaintop mining operations are being affected. Technical literature and relevant data focusing on the issues of dust generation and fume generation are being reviewed, analyzed, and compiled. A field testing protocol was developed and all equipment needs for collecting dust samples and fume measurements identified and purchased. A field monitoring study has been conducted to collect dust and fume measurements from 1-2 mine sites. Field investigation data is being analyzed and a report prepared. This study is projected to be completed in November 2000.

Landscape Ecology Analysis: Aerial photography and GIS modeling are being utilized to undertake thematic mapping of the study area. Land use changes based upon the cumulative impact of future mining will be modeled on a watershed basis using specific environmental

indicators, such as percent of headwater streams impacted, degree of forest fragmentation, etc. The study will be conducted by the Canaan Valley Institute, in cooperation with WVDEP. This study is projected to be completed in November 2000.

The completion of these key studies target release of the draft EIS for late this year. The EIS Steering Committee will meet in early December to assess the availability and applicability of the study information and the possibility of release by year's end. For more information, please contact Bill Hoffman at (215) 814-2995 or at [HOFFMAN.WILLIAM@epamail.epa.gov](mailto:HOFFMAN.WILLIAM@epamail.epa.gov).